



41316

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Hiroiyuki KAKITA et al.

Serial No.: 09/753,677

Filed: January 4, 2001

For: PROCESS FOR TRANSPORTING,
STORING, AND PRODUCING A
PARTICULATE WATER-ABSORBENT
RESIN

Patent Art Unit: 3725

Examiner: J. Husar

RESPONSE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the August 1, 2003 Office Action.

In the Action, claims 7-12 are rejected and claims 1-6 and 13-15 are withdrawn from consideration as being directed to the non-elected invention. The pending claims being examined are claims 7-12, with claim 7 being the sole independent claim. In view of the following comments, reconsideration and allowance are requested.

Rejection Under 35 U.S.C. § 103

Claims 7-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the alleged admitted prior art in view of U.S. Patent No. 3,650,804 to Parisi. For the reasons presented herein, Applicants submit that the claims are allowable over the art of record.

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PATENT

Case Docket No.: 41316

In re Application of: Hiroyuki KAKITA et al.

Serial No.: 09/753,677

Patent Art Unit: 3725

Filed: January 4, 2001

Examiner: J. Husar

For: **PROCESS FOR TRANSPORTING, STORING AND PRODUCING A PARTICULATE WATER-ABSORBENT RESIN**

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

Transmitted herewith is a Response in the above-identified application:

- ☐ Applicant claims small entity status. See 37 CFR 1.27.
☒ No additional fee is required.

The fee has been calculated as shown below:

	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA	SMALL ENTITY		OTHER THAN A SMALL ENTITY	
				RATE	ADDIT. FEE	RATE	ADDIT. FEE
TOTAL	6	- 20 =	0	x 9 =	\$	x 18 =	\$
INDEP	1	- 3 =	0	x 43 =	\$	x 86 =	\$
<input type="checkbox"/> FIRST PRESENTATION OF MULT. DEP. CLAIM				+ 145 =	\$	+ 290 =	\$
If the difference in Col. 1 is less than zero, enter "0" in Col. 2				TOTAL	\$	TOTAL	\$

- ☐ Applicant(s) petition(s) for an extension of _____ month(s) to respond and submits herewith the fee of \$_____.
- ☐ Please charge my Deposit Account No. 18-2220 in the amount of \$_____. A duplicate copy of this sheet is attached.
- ☐ A check in the amount of \$_____ is attached.
- ☒ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 18-2220. A duplicate copy of this sheet is attached.
- ☒ Any additional excess claim fees under 37 C.F.R. § 1.16.
- ☒ Any additional patent application processing fees under 37 C.F.R. § 1.17.

Dated: October 29, 2003

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The claimed invention is directed to a process for storing a particulate water-absorbent resin in a manner to prevent agglomeration of the water-absorbent resin particles. The claimed process includes at least one step of externally heating a surface of the storage apparatus that comes into contact with the resin particles, maintaining the surface of the storage apparatus that contacts the resin particles at a temperature of 30 to 150°C or maintaining the surface of the storage apparatus that contacts the resin particles above a temperature that is 20°C below the temperature of the water-absorbent resin particles. The alleged admitted prior art and the art of record does not disclose or suggest the claimed process steps.

The Action refers to the alleged admitted prior art in the specification. The Action appears to refer to the discussion in the background of the invention which identifies the problem of agglomeration of water-absorbent resin particles and that the agglomerated water-absorbent resin particles can adhere to the pulverizer or to the outlet of the pulverizer. This disclosure recognizes the problem of the prior art but does not provide a solution for the disadvantages of the prior art processes. The alleged admitted prior art does not disclose or suggest a process for preventing agglomeration of water-absorbent resin particles. Therefore, the alleged admitted prior art has no relation to the claimed invention.

Parisi is cited as allegedly disclosing a process that is “analogous” to the claimed invention. Parisi has no relation to the claimed invention or to the alleged admitted prior art. As noted above, the present invention is directed to a process for preventing or inhibiting agglomeration of water-absorbent resin particles. The process of the present invention prevents clogging of the storage container and the pulverizer that is often exhibited in the prior art processes.

Parisi has no relation to the claimed invention. In particular, Parisi has no relation to a process for treating or handling particles of any kind and particularly has no relation to water-absorbent resin particles of the claimed invention. Thus, Parisi is not analogous to the claimed invention.

Parisi relates to a process for impregnating a porous cast body with a liquid synthetic resin sealant under pressure. The process of Parisi applies a positive pressure to force the liquid synthetic resin through the pores of the cast body and then cures the resin within the pores to reduce the permeability of the resulting porous body. The synthetic resin sealant of Parisi is normally a liquid resin such as an epoxy type resin that includes a curing agent. The viscosity of the liquid resin in the Parisi process is often sufficiently high to inhibit the permeability of the liquid resin through the pores of the porous body. Parisi relates to a liquid synthetic resin and has no relation to the handling, storing or processing of particles, and particularly water-absorbent resin particles. Therefore, Parisi is not analogous to the claimed invention as suggested in the Action.

As noted in the Action, Parisi heats the liquid synthetic resin to reduce the viscosity of the resulting resin. However, reducing the viscosity of a liquid resin as in Parisi is not analogous to preventing agglomeration of particles and particularly water-absorbent resin particles as in the claimed invention. It is a well known characteristic of liquid resins that increasing the temperature typically reduces the viscosity of the resin or other liquid. However, the art of record does not recognize the advantages of the present invention and provides no suggestion of heating water-absorbent resin particles to prevent agglomeration of particles. Furthermore, one skilled in the art would not consider heating a liquid resin to reduce the viscosity as being analogous to heating water-absorbent resin particles to prevent

agglomeration. The changes in viscosity by heating a liquid resin as in Parisi has no relation to preventing agglomeration of water-absorbent resin particles.

Parisi does not disclose or suggest that heating water-absorbent resin particles prevents agglomeration as suggested in the Action. One skilled in the art would not consider it obvious in view of Parisi to heat water-absorbent resin particles with an expectation of success of preventing agglomeration since Parisi relates only to reducing the viscosity of a liquid synthetic resin so that a porous body can be more easily impregnated with the liquid resin. Furthermore, Parisi provides no motivation or incentive to one of ordinary skill in the art to heat water-absorbent resin particles or to modify the alleged admitted prior art as suggested in the Action.

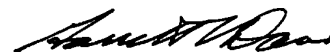
In summary, Parisi has no relation to the claimed process of treating or storing water-absorbent resin particles. The properties of the liquid synthetic resin of Parisi and the water-absorbent resin particles of the present invention are sufficiently different that Parisi does not render the invention obvious. There is no basis in the art of record for the position that one of ordinary skill in the art would expect that heating water-absorbent resin particles prevents agglomeration of the particles in view of the reduction in the viscosity of the liquid resin of Parisi. Accordingly, claim 7 is not obvious over the alleged admitted prior art in view of Parisi.

Claims 8-12 are also allowable as depending from an allowable base claim and for reciting additional features of the claimed invention that are not disclosed or suggested in the art of record. The Action contends that these limitations would have been obvious matters of design choice. As noted above, Parisi relates to reducing the viscosity of a liquid synthetic resin and has no relation to the water-absorbent resin particles. Moreover, the art of record fails to disclose a process of storing a surface crosslinked particulate water-absorbent resin as

in claim 8 where the surface crosslinked particle water-absorbent resin contains a polyhydric alcohol as in claim 9, the absorption capacity under load as in claim 10, the partially neutralized carboxylic acid salt of claim 11 or the water-absorbent resin obtained by drying at 160 to 250°C as in claim 12 either alone or in combination with the process of claim 7. Accordingly, claims 8-12 are not obvious over the art of record.

In view of the above comments, claims 7-12 are submitted to be allowable over the art of record. Reconsideration and allowance are requested.

Respectfully submitted,



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